

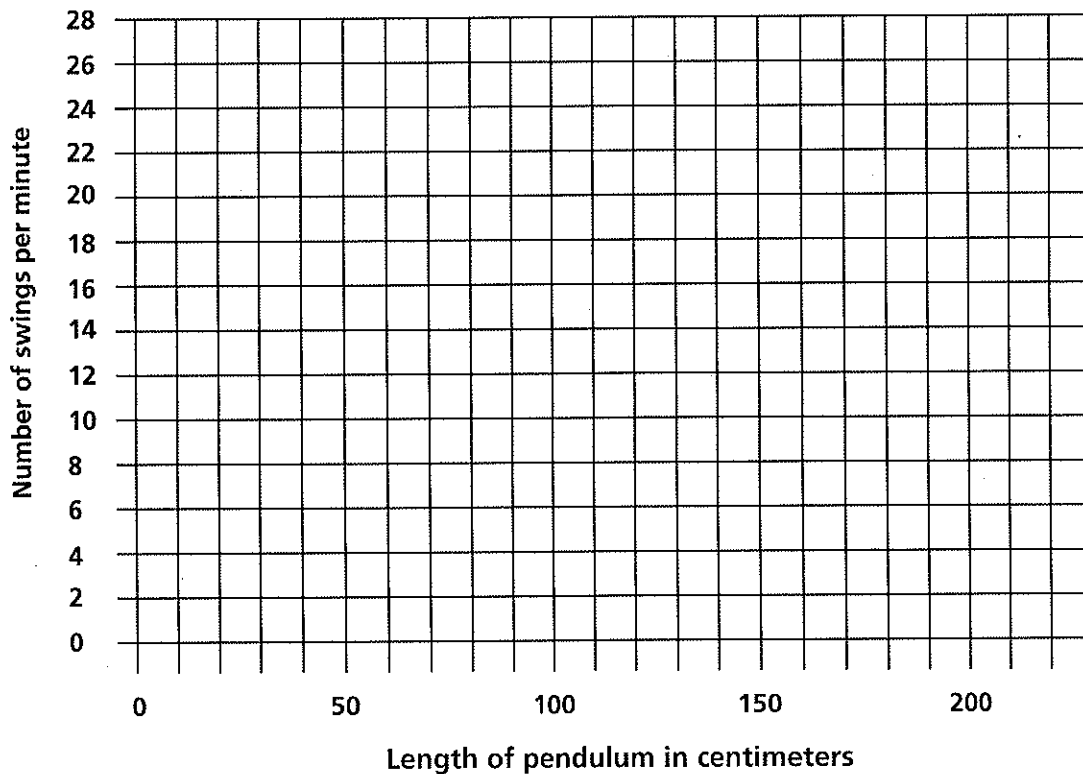
# The Period of a Pendulum

The period of a pendulum is the time it takes to complete one back-and-forth swing.

If pendula have weights of different masses, the swing periods are still the same.  
 If pendula have different lengths, the periods are different. The longer the pendula, the longer the swing period.

Graph the information from the table to compare the periods of pendula of various lengths.

Length of pendulum	Number of swings per 15 seconds	Length of pendulum	Length of pendulum
200 centimeters	5	50 centimeters	11
30 centimeters	15	150 centimeters	6
10 centimeters	26	60 centimeters	10
20 centimeters	18	75 centimeters	9
100 centimeters	8	125 centimeters	7



# Pendulum Swings

A **pendulum** consists of a suspended object that swings freely on a string. Use the words in the word box to complete each sentence.

bifilar	period	bob	gravity
fixed point	equator	simple pendulum	Foucault
Galileo	amplitude	North Pole	metronome

- 1 A pendulum consists of an object suspended from a \_\_\_\_\_ that swings back and forth.
- 2 The weighted object at the end of a pendulum is called the \_\_\_\_\_.
- 3 Each back and forth swing of a pendulum is called a \_\_\_\_\_.
- 4 The swing of a pendulum is influenced by the force of \_\_\_\_\_.
- 5 The most basic type of pendulum is called a \_\_\_\_\_ which oscillates back and forth on a single plane.
- 6 A \_\_\_\_\_ pendulum is used to demonstrate the rotation of Earth.
- 7 The principle of a pendulum was discovered by the Italian physicist and astronomer \_\_\_\_\_.
- 8 The back and forth oscillation of a pendulum of a given length remains the same, no matter how large its \_\_\_\_\_.
- 9 \_\_\_\_\_ pendulums are constructed with two strings or wires and can be used to detect earthquakes.
- 10 When a pendulum is used to measure Earth's rotation, the effect is most noticeable at the \_\_\_\_\_, where the pendulum rotates every 24 hours.
- 11 The rotation of a pendulum decreases with latitude. At the \_\_\_\_\_ the pendulum does not rotate at all.
- 12 A \_\_\_\_\_ uses an upside-down pendulum to keep tempo.